

Amendments

In the Claims

1. **(Previously Amended)** A method for identifying a bioactive compound, the method comprising the steps of:

contacting a yeast host cell containing a heterozygous deletion in a target sequence with a candidate bioactive compound; and

detecting expression of a stress response gene by the host cell in response to said contacting;

wherein detection of no significant increase in expression of the stress response gene as compared to expression of the stress response gene in a control host cell indicates that the candidate bioactive compound has activity as a drug and that the host cell having the heterozygous deletion is sensitive to the drug activity of the compound.

2.-3. **(Cancelled)**

4. **(Currently Amended)** The method of claim 1, wherein the yeast host cell comprises a stress response gene reporter construct, wherein expression of the stress response gene reporter construct is indicative of a stress response in the yeast host cell.

5. – 6.. **(Cancelled)**

7. **(Currently Amended)** The method of claim 1, wherein at least two or more yeast host cells, each having a heterozygous deletion in a different target sequence, are contacted with a candidate drug ~~in a single culture~~, and wherein expression of the a reporter gene construct in each yeast host cell provides for a unique detectable signal for detection of reporter gene expression.

8. **(Cancelled).**

9. **(Previously Amended)** The method of claim 1, wherein the stress response gene is selected from the group consisting of *HSP26*, *HSP12*, *HSP42*, *HSP78*, and *HSP82*.

10. **(Previously Amended)** The method of claim 1, wherein the stress response gene is selected from the group consisting of *YFL030W* and *YNL194C*.

11. **(Previously Amended)** A method for identifying a target gene product of a bioactive compound, the method comprising the steps of:

contacting a yeast host cell with a bioactive compound, wherein the host cell is altered in expression of a target gene product; and

detecting a level of expression of a stress response gene by the host cell in response to said contacting;

wherein a lower or undetectable level of expression of the stress response gene in the host cell relative to a level of expression in a wildtype host cell exposed to the bioactive compound indicates that the host cell is altered in expression for a target gene product that is involved in mediating resistance or sensitivity to the bioactive compound.

12. **(Currently Amended)** The method of claim 11, wherein the yeast host cell comprises a stress response gene reporter construct, wherein expression of the stress response gene reporter construct is indicative of a stress response in the yeast host cell.

13. **(Currently Amended)** The method of claim 11, wherein at least two or more yeast host cells containing a heterozygous deletion strains are contacted with the drug in a single culture, and wherein expression of the reporter gene construct in each yeast host cell provides for a unique detectable signal for detection of reporter gene expression.

14. **(Cancelled)**

15. **(Previously Amended)** The method of claim 11, wherein the stress response gene is selected from the group consisting of *HSP26*, *HSP12*, *HSP42*, *HSP78*, and *HSP82*.

16. **(Previously Amended)** The method of claim 11, wherein the stress response gene is selected from the group consisting of *YFL030W* and *YNL194C*.

17. – 20. (Cancelled)

21 (New) The method of claim 7, wherein the yeast host cells are contacted with the candidate drug in a single culture.

22. (New) The method of claim 13, wherein the yeast host cells are contacted with the candidate drug in a single culture.